

I CLAIM:

1. A digital audio signal playback apparatus, comprising:

5 a housing having a top wall formed with an opening;
a data reading device mounted in said housing and operably associated with a data recording medium for reading digital audio data recorded in the data recording medium;

10 a pivot axle unit defining an axis, and including a rotatable inner spindle and an outer sleeve sleeved rotatably on said inner spindle,

15 said outer sleeve having a platter connecting portion extending through said opening in said top wall of said housing so as to be disposed outwardly of said housing, and an encoder connecting portion disposed inside said housing,

20 said inner spindle having a platter connecting section extending upwardly through said platter connecting portion of said outer sleeve, and an encoder connecting section extending downwardly through said encoder connecting portion of said outer sleeve;

25 a turntable unit disposed above said top wall of said housing, and including a lower platter member coupled co-axially to said platter connecting portion of said outer sleeve for co-rotation therewith, an upper platter member superposed on said lower platter member and coupled co-axially to said platter connecting section

of said inner spindle for co-rotation therewith, and
a coupling interlayer interposed between and in friction
contact with said lower and upper platter members, said
upper platter member being rotatable together with said
5 lower platter member as a result of friction between
said coupling interlayer and said upper and lower platter
members;

a driving unit mounted in said housing and coupled
to said lower platter member for driving rotation of
10 said lower platter member about said axis;

a first encoder disc mounted co-rotatably on said
encoder connecting portion of said outer sleeve and
formed with a first pick-up pattern;

a second encoder disc mounted co-rotatably on said
15 encoder connecting section of said inner spindle and
formed with a second pick-up pattern;

a first pick-up device proximate to said first encoder
disc and interacting with said first pick-up pattern
for generating a first control signal representative
20 of angular velocity and rotational direction of said
first encoder disc;

a second pick-up device proximate to said second
encoder disc and interacting with said second pick-up
pattern for generating a second control signal
25 representative of angular velocity and rotational
direction of said second encoder disc; and

a control unit connected electrically to said first

and second pick-up devices and said data reading device,
said control unit controlling output of the digital audio
data read by said data reading device in accordance with
the first and second control signals from said first
5 and second pick-up devices so as to impart a scratch
effect to the digital audio data.

2. The digital audio signal playback apparatus as claimed
in Claim 1, wherein said driving unit includes an
electromagnet, and a magnetic member disposed around
10 said electromagnet, suspended from said lower platter
member, and driven by said electromagnet to rotate about
said axis when said electromagnet is excited.

3. The digital audio signal playback apparatus as claimed
in Claim 1, further comprising an upright pivot seat
15 disposed in said housing, said pivot axle unit extending
rotatably through said pivot seat.

4. The digital audio signal playback apparatus as claimed
in Claim 3, further comprising a heat-dissipating sleeve
disposed between said pivot seat and said pivot axle
20 unit.

5. The digital audio signal playback apparatus as claimed
in Claim 1, wherein said data reading device is an optical
reader capable of reading an optical disc.

6. A scratch effect control device for a digital audio
25 signal playback apparatus, the playback apparatus
having a data reading device operably associated with
a data recording medium for reading digital audio data

recorded in the data recording medium, said scratch effect control device comprising:

5 a pivot axle unit defining an axis, and including a rotatable inner spindle and an outer sleeve sleeved rotatably on said inner spindle,

said outer sleeve having a platter connecting portion and an encoder connecting portion opposite to said platter connecting portion,

10 said inner spindle having a platter connecting section extending through said platter connecting portion of said outer sleeve, and an encoder connecting section extending through said encoder connecting portion of said outer sleeve;

15 a turntable unit including a lower platter member coupled co-axially to said platter connecting portion of said outer sleeve for co-rotation therewith, an upper platter member superposed on said lower platter member and coupled co-axially to said platter connecting section of said inner spindle for co-rotation therewith,
20 and a coupling interlayer interposed between and in friction contact with said lower and upper platter members, said upper platter member being rotatable together with said lower platter member as a result of friction between said coupling interlayer and said upper
25 and lower platter members;

a driving unit coupled to said lower platter member for driving rotation of said lower platter member about

said axis;

a first encoder disc mounted co-rotatably on said encoder connecting portion of said outer sleeve and formed with a first pick-up pattern;

5 a second encoder disc mounted co-rotatably on said encoder connecting section of said inner spindle and formed with a second pick-up pattern;

a first pick-up device proximate to said first encoder disc and interacting with said first pick-up pattern for generating a first control signal representative of angular velocity and rotational direction of said first encoder disc;

10 a second pick-up device proximate to said second encoder disc and interacting with said second pick-up pattern for generating a second control signal representative of angular velocity and rotational direction of said second encoder disc; and

a control unit connected electrically to said first and second pick-up devices and adapted to control output of the digital audio data read by the data reading device in accordance with the first and second control signals from said first and second pick-up devices so as to impart a scratch effect to the digital audio data.

20 7. The scratch effect control device as claimed in Claim 6, wherein said driving unit includes an electromagnet, and a magnetic member disposed around said electromagnet, mounted on said lower platter member, and driven by said

electromagnet to rotate about said axis when said
electromagnet is excited.